

Car gearbox on the basis of the differential mechanism

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Abstract

The author has carried out analysis of the existing and projected planetary gear boxes and regarded the prospects of their application and development. New planetary systems called an all-purpose multi-line differential gear train and covered by RF patent №2384773 were developed which possess the possibility to unite as more differential devices as possible in their mechanical diagram. A brassboard module of planetary system was fabricated and based thereon the mechanical diagrams of planetary gear boxes were developed. A mechanical diagram of eight-diameter stepped planetary gear box is presented and calculation of gear transmission ratio with the operation concept is stated. The design of a new eight-diameter stepped planetary gear box was produced.

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Keywords

All-purpose all-round differential gear train, Friction brake, Friction lock-up clutch, Mechanical diagram, Planetary system